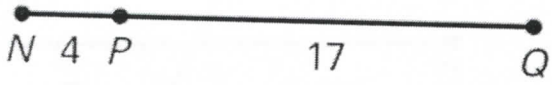
Name ANSWER KEY Period

Geometry Unit 1 Worksheet 2 More Segment Addition

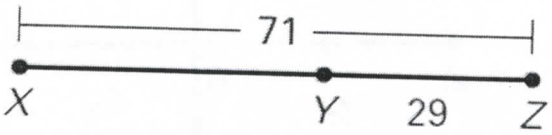
Use the Segment Addition Postulate to find the indicated length

1. Find NQ.



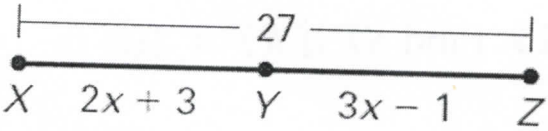
NP + PQ = NQ
4 + 17 = NQ
21 = NQ

2. Find XY.



XY + YZ = XZ
XY + 29 = 71
-29 -29
XY = 42

3. Find YZ.

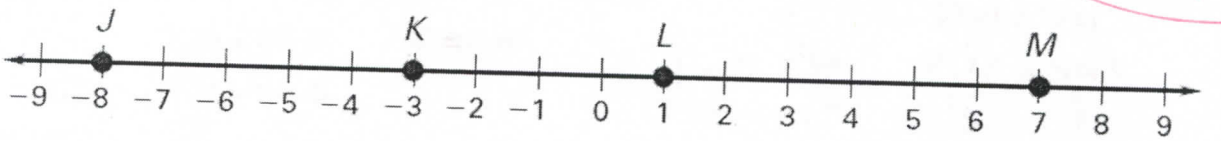


XY + YZ = XZ
2x + 3 + 3x − 1 = 27

5x + 2 = 27
-2 -2
5x = 25
5 5
x = 5

YZ = 3x − 1
YZ = 3(5) − 1
YZ = 14

Use the number line to find the indicated distance.



4. $JK = |-8 - -3|$
$= |-5|$
$= 5$

5. $KL = |-3 - 1|$
$= |-4|$
$= 4$

6. $LM = |1 - 7|$
$= |-6|$
$= 6$

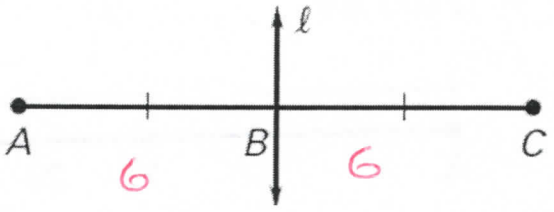
7. $JL = |-8 - 1|$
$= |-9|$
$= 9$

8. $JM = |-8 - 7|$
$= |-15|$
$= 15$

9. $KM = |-3 - 7|$
$= |-10|$
$= 10$

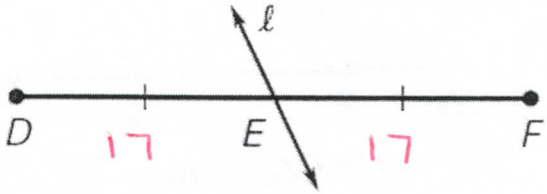
Line ℓ bisects the segment. Find the indicated length.

10. Find AC if $AB = 6$ cm.



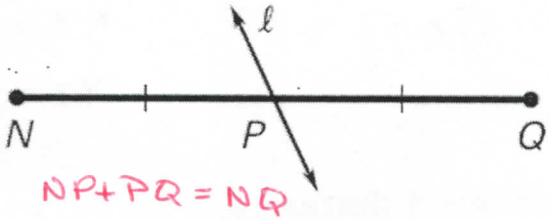
AB + BC = AC
6 + 6 = AC
12 = AC

11. Find DF if $DE = 17$ cm.



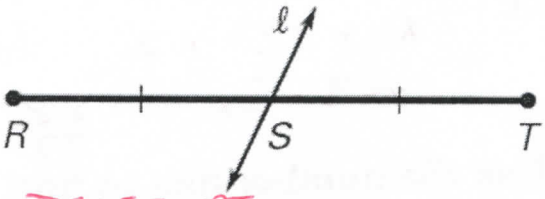
DE + EF = DF
17 + 17 = DF
34 = DF

12. Find NP if $NQ = 31.8$ cm.



NP = PQ
NP + PQ = NQ
2NP = NQ
$\frac{2NP}{2} = \frac{31.8}{2}$
NP = 15.9

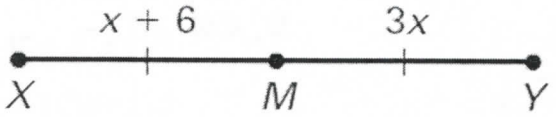
13. Find ST if $RT = 109$ in.



RS + ST = RT
RS = ST
2ST = RT
$\frac{2ST}{2} = \frac{109}{2}$
ST = 54.5

In each diagram, *M* is the midpoint of the segment. Find the indicated length.

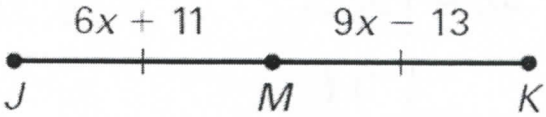
14. Find XM.



XM = MY
x + 6 = 3x
$\frac{-x}{\quad} \quad \frac{-x}{\quad}$
$\frac{6}{2} = \frac{2x}{2}$
3 = x

XM = x + 6
XM = (3) + 6
XM = 9

15. Find JK.



JM = MK
6x + 11 = 9x − 13
$\frac{-6x \quad -6x}{\quad}$
11 = 3x − 13
$\frac{+13 \quad +13}{\quad}$
24 = 3x

x = 8
JK = 15x − 2
= 15(8) − 2
= 120 − 2
JK = 118